

Name

--

Hardy Weinberg Homework
Analyzing Data (page 491)

$$p^2 + 2pq + q^2 = 1 \text{ and } p + q = 1$$

p = frequency of the dominant allele in the population (A)

q = frequency of the recessive allele in the population (a)

p^2 = percentage of homozygous dominant individuals (AA)

q^2 = percentage of homozygous recessive individuals (aa)

2pq = percentage of heterozygous individuals (Aa)

Population Size = 10,000

36 individuals are affected by condition (homozygous recessive)

$$q^2 = 0.0036$$

What are the frequencies of each of the following?
(You MUST show your work to get any credit!)

1. S allele
2. s allele
3. SS genotype
4. Ss genotype
5. ss genotype

Show work here:

--

BONUS

What percentage of people, in total, is likely to be carrying the "s" allele, whether or not they know it? (Show your work!)

--